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AMIN, TUROCY & CALVIN, LLP			EXAMINER	
24TH FLOOR, NATIONAL CITY CENTER			WEI, ZHENG	
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CLEVELAND, OH 44114			ART UNIT	PAPER NUMBER
			2192	
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			08/14/2008	ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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Office Action Summary

Application No.

10/692,660

Applicant(s)

MCCOLLUM ET AL.

Examiner

ZHENG WEI

Art Unit

2192

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 06 May 2008.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-27 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 20-26 is/are allowed.
- 6) ☒ Claim(s) 1-19, 27 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 24 October 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/S508)
- 4) ☐ Interview Summary (PTO-413)
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____
- Paper No(s)/Mail Date _____

DETAILED ACTION

Remarks

1. This office action is in response to the amendment filed on 05/06/2008.
2. Claims 1-17, 19, 20 and 27 have been amended.
3. The objection to claims 8, 9, 15 and 19 is withdrawn in view of the Applicants' amendment.
4. The 35 U.S.C. 112 second paragraph rejection of claims 1-17 and 19 is withdrawn in view of the Applicant's amendment.
5. Claims 1-27 remain pending and have been examined.
6. Claims 20-26 are allowable.

Response to Arguments

7. Applicant's arguments filed on 05/06/2008, in particular on pages 8-11, have been fully considered but they are not persuasive. For example:
 - At page 8, lines 6-8 of last paragraph, the Applicants argue that Bigus does not teach or suggest decomposition of this statement into instructions that are processed asynchronously in order to avoid overburdening of computer resources.

However, the Examiner respectfully disagrees.

As Bigus disclosed at paragraph [0017], "Each framework object is a rule block comprising rules...each rule is a single declarative statement [emphasis added]". It is clear that said statement has to be decomposed/compiled to the

computer executable instruction during execution. Bigus also discloses the rules/statements/instructions are processed asynchronously/sequentially (see for example, paragraph [0045], "...the rules can be processed sequentially or selected to fire..."[emphasis added]). Said asynchronously/sequentially processing the rules/statements/instructions also indicate that each of the rule/statement/instruction executing can control utilization of computer resources, because there is only one rule/statement/instruction is running at a given time during sequentially execution. Therefore Bigus does implicitly/explicitly disclose the limitation as the Applicants argued.

- At page 8, last 2 lines of last paragraph, the Applicants submit that Bigus does not teach or suggest infinite looping for running a rule continuously. Because Bigus merely teaches looping by employing a while and while do construct but does not teach or suggest an infinite loop.

However, the Examiner respectfully disagrees.

Bigus discloses using "while" and "do-while" iteration rules (looping) at paragraph [0046]. It is well known in the computer programming art that "while" or "do-while" loop can be used to implement both infinite and finite loops. For the iteration rules as Bigus disclosed without specifying any iteration number/times, it is obvious that said rules can be implemented as infinite loop by using the "while" or "do-while" loops.

- At pages 9-10, the Applicants submit that Bigus does not disclose newly added limitations about defining a rule type, mapping thread to tasks and correlating/eliminating the need to write multithreading code.

The Examiner agrees with the Applicants that current amendments overcome the rejection to claims 20-26 in previous office action. Therefore, the rejection to claims 20-26 is withdrawn and claims 20-26 are allowable.

Claim Rejections - 35 USC § 103

8. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

9. Claims 1-5, 17-19 and 27 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bigus (Bigus et al., US 2004/0083454).

Claim 1:

Bigus discloses a computer readable medium having computer executable program code embodied thereon for performing the following act for authoring of rules (see for example, paragraph [0016], "a computer program product", [0062], "...be implemented in ...an application program tangibly embodied on a program storage device"): composing a rule based on one or more statements, such that the rule is decomposed (parsed) and processed asynchronously (sequentially) to

control utilization of computer resources and to facilitate at least one of testing assertions, enforcing constraints using runtime information, making inferences, performing correlation, or communicating results of dynamic tests to other components (see for example, Figure 2B, elements 229-233 and related text, Figure 4, and related text "parsing and compilation of rulesets", also see. Paragraph [0042], "A collection of rule language rules is a collection of declarative and procedural statements that can be actively interpreted or processed by one or more inference engines."; see for another example, p.3, paragraph [0045], "Depending on the inference engine used by the rule block, the rules can be processed sequentially or selected to be fired..."), the rule executed concurrently with one or more disparate rules (see for example, Fig.2B, items 231, "RulesBlocks", items 216-218 "inference Engine"; also see paragraph [0045]). But Bigus does not explicitly disclose decomposing the rule into a subset of instructions and processing said instructions asynchronously. However, Bigus also disclose each rule is a statement (see for example, paragraph [0017], "Each framework object is a rule block comprising rules...each rule is a single declarative statement"). It is obvious that said statements have to be decomposed/compiled to the computer executable instructions during execution. For the same reason, as Bigus disclosed above, the rules/statements can be "processed sequentially or selected to be fired", accordingly, rules/statements/instructions are also processed asynchronously (sequentially) and further controlling utilization of computer resources.

But Bigus does not explicitly disclose the rule executed concurrently with one or more disparate rules in an infinite loop with suitable timeouts to keep the rule from running all the time. However, Bigus also discloses rule running at iteration loop without specifying any iteration number/times by using "while" or "do-while" iteration rules(see for example, paragraph [0046], "while and do-while iteration rules"). Therefore it is obvious that said rules can run in said "while" and "do-while" from any iteration number including infinite according the requirement. Because it is well known in the computer programming art that "while" or "do-while" loop can be used to implement infinite loops or finite loops to keep running all the time.

Claim 2:

Bigus further discloses the computer readable medium of claim 1 the one or more statements facilitates activating the rule for processing (see for example, paragraph [0025], "using-clause of the init() rule block").

Claim 3:

Bigus also discloses the computer readable medium of claim 1, the one or more statements facilitates activating the rule according to least one of a regular basis and detection of an event (see for example, paragraph [0045], "Depending on the inference engine used by the rule block, the rules can be processed sequentially or selected to be fired based on priority, specificity, or some other criterion").

Claim 4:

Bigus further discloses the computer readable medium of claim 1, the one or more statements facilitate performing a continuous polling loop (see for example, paragraph [0046], "A rule is a declarative statement or knowledge expression. Rule language statements are referred to as rules...and while and do-while iteration rules").

Claim 5:

Bigus also discloses the computer readable medium of claim 4, the polling loop is performed according to a polling interval such that the polling loop executes and then waits for the polling interval to expire before executing a next polling loop (see for example, paragraph [0073], "...provides a timer function, wherein the bean cycles from a sleep mode to a wake-up mode every N milliseconds").

Claim 6:

Bigus further the computer readable medium of claim 4, the polling loop is facilitated according to a keyword that includes at least one of a variable, an object, or a constant (see for example, paragraph [0073], "...provides a timer function, wherein the bean cycles from a sleep mode to a wake-up mode every N milliseconds, where N is a variable.").

Claim 7:

Bigus further discloses the computer readable medium of claim 1, the rule executes concurrently with another rule (see for example, paragraph [0047], "Multiple rules can be grouped together into rule blocks, each rule block can have an associated inference engine that interprets the rules in that block. This allows for mixing multiple inference techniques. The inference engines implement the control strategies that affect how the rules are interpreted.").

Claim 8:

Bigus also discloses the computer readable medium of claim 1, at least one of the one or more statements facilitate creating at least one of an implicit task and an explicit task, wherein the explicit task is created by explicitly specifying a keyword and explicit task object, and the implicit task is created when a startup attribute is used on the rule. (see for example, paragraph [0074]-[0075] and example code in [0078]-[0080], "the ruleset bean is a bean that provides support for processing events, either synchronously or asynchronously")

Claim 9:

Bigus further discloses the computer readable medium of claim 8, the one or more statements facilitates explicit task declaration of the explicit task object for the explicit task, and use of a statement that launches concurrent execution of the rule (see for example, Figure 9 and related text, also see paragraph [0075]-

[0076], "The ruleset author can declare rulesets of any valid rule language identifier and these are depicted as items 909 and 910.").

Claim 10:

Bigus further discloses the computer readable medium of claim 1, the one or more statements facilitates creating a task using one of a startup attribute or a signaling attribute (see for example, paragraph [0025], "initializing each rule block and creating an instance of an inference engine specified in a using-clause of the init() rule block").

Claim 11:

Bigus also disclose the computer readable medium of claim 1, the one or more statements facilitates allowing the rule to invoke another rule (see for example, paragraph [0045], "Rules can be written that invoke other rule blocks").

Claim 12:

Bigus further discloses the computer readable medium of claim 1, the one or more statements facilitate separating rule logic data from rule configuration data using at least one parameter (see for example, paragraph [0068], "The design of the framework explicitly provides for this capability by separating the data from the inference or control modules.").

Claim 13:

Bigus also discloses the computer readable medium of claim 12, the at least one parameter is passed by one of a value or by reference (see for example, paragraph [0045], "Rules can also call out to arbitrary Java methods to receive values and invoke actions.").

Claim 14:

Bigus also discloses the computer readable medium of claim 1, the rule is an independent rule authored using at least one of an infinite loop or an event-driven callback (see for example, paragraphs [0073] –[0074], "bean cycles", "processTimerEvent() rule block" and "processEvent() rule block")

Claim 15:

Bigus discloses the computer readable medium of claim 14, the event-driven callback facilitates asynchronous delivery of a data item (see for example, paragraph [0074], "processing events, either synchronously or asynchronously", also see paragraph [0075] "inputs{}"), but does not explicitly disclose the data item is from an URI (uniform resource identifier)-based source. However, it is well known in the computer art that URI can be classified as URL and URN. The URL can be configured and embedded in XML ruleset as described in Bigus' example at paragraphs [0080]-[0081], the definition of "xmlns:xsi='http://www.w3.org/2001/XMLSchema-instance'". Therefore, it would

have been obvious to one having ordinary skill in the art at the time the invention was made to define data input in "inputs" namespace by using the URL to retrieve input data automatically without user input. One would have been motivated to do so to allows the ruleset bean to operate in an autonomous or fully-automatic mode as suggested by Bigus (see for example, paragraph [0073], "This processing mode allows the ruleset bean to operate in an autonomous or fully-automatic mode enabling the framework to be used in autonomic and real-time policy enforcement applications")

Claim 17:

Bigus further discloses the computer readable medium of claim 1, the one or more statements facilitates collecting at least two data items concurrently, when the at least two data items become available (see for example, Figure 6, step 602 and related text, "Process Input Variables").

Claim 18:

Bigus also discloses the computer readable medium of claim 1, embodied within a device. (see for example, Figure 2A and related text, also see paragraph [0063], "a computer system 201").

Claim 19:

Bigus also discloses the computer readable medium of claim 1, the one or more statements facilitates at least one of automated rule instantiation based on XML (Extensible Markup Language), built-in polling without threading or concurrency considerations, and automated logging of rule instance information in alerts (see for example, paragraphs [0080]-[0081], "XML ruleset", "outputs", also see paragraphs [0073]-[0074], "output buffer").

Claim 27:

Bigus discloses a computer program product including a computer readable medium having computer readable program code embodied thereon (see for example, paragraph [0016], "a computer program product", [0062], "...be implemented in ...an application program tangibly embodied on a program storage device") for providing a method of authoring rules for concurrent processing, the method comprising, employing a rules definition language (RDL) to compose a rule of one or more statements that facilitate decomposing the rule into a subset of instructions that control utilization of computer resources (see for example, p.3, paragraph [0045], "Depending on the inference engine used by the rule block, the rules can be processed sequentially or selected to fired...") by independent scheduling for execution representative of an infinite loop (see for example, paragraph [0046], "while and do-while iteration rules"), the rules processed to perform at least one of testing assertions, enforcing constraints using runtime information, making inferences, performing correlation, and

communicating results of dynamic tests to other components. (see for example, Figure 2B, elements 229-233 and related text, Figure 4, and related text "parsing and compilation of rulesets", also see Paragraph [0042], "A collection of rule language rules is a collection of declarative and procedural statements that can be actively interpreted or processed by one or more inference engines.").

10. Claim 16 is rejected under 35 U.S.C. 103(a) as being unpatentable over Bigus (Bigus et al., US 2004/0083454) in view of Graf (Lars Oliver Graf, US 6212581)
Claim 16:

Bigus discloses the product of claim 1, but does not disclose the rule is subscribed to reveal events at one time. However, Graf in the same analogous art of a method and system for managing a group computer using rule-based expert system discloses revealing events at same time (see for example, col.14, lines 54-65, "The events program defines an ordered list of records, each describing a type of event", "SYSTEMWatch AI-L will check for events whenever the checkEvent function is called"). Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to use Graf's method in Bigus's program product. One would have been motivated to do so to manage events list more efficient as suggested by Graf. (see for example, col.14, lines 54-65, "the next event to be executed is first on the list").

Conclusion

11. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Applicant's arguments with respect to claims rejection have been considered, but are not persuasive. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

12. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Zheng Wei whose telephone number is (571) 270-1059 and Fax number is (571) 270-2059. The examiner can normally be reached on Monday-Thursday 8:00-15:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Tuan Q. Dam can be reached on (571) 272-3695. The

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fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Any inquiry of a general nature of relating to the status of this application or proceeding should be directed to the TC 2100 Group receptionist whose telephone number is 571- 272-1000.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Z. W./ Examiner, Art Unit 2192	/Tuan Q. Dam/ Supervisory Patent Examiner, Art Unit 2192
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